

04/10/14 Agenda:

- Review:

 - Homework - Worksheet 8 - Area of Complex Figures
Quiz

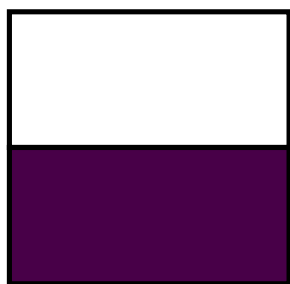
- Section 11.7 - Geometric Probability

- Homework

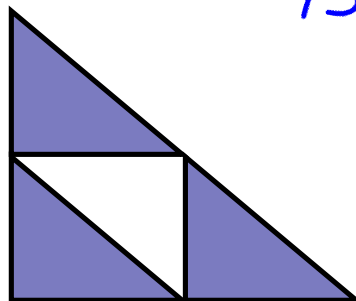
 - Worksheet 8 - Area of Complex Figures
 - Worksheet 9 - Geometric Probability

Warm Up - **Get Your Homework Out!**

What percentage of each figure is shaded?



50%
 $\frac{1}{2}$
.50



75%
 $\frac{3}{4}$
.75

Section 11.7 - Geometric Probability

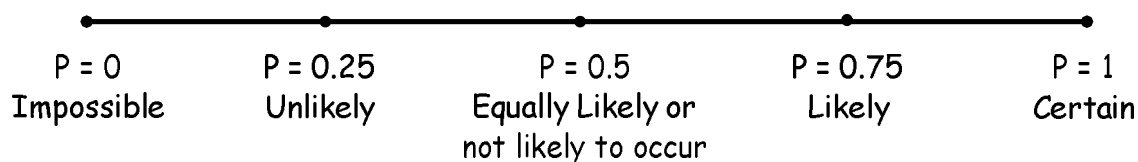
Target 11J

April 10, 2014

Goal: Use areas to determine Geometric Probabilities.

Probability:

The measure of the likelihood that an event will occur. It is a number between 0 and 1, inclusive, and can be written as a fraction, decimal, or percent. The probability of event **A** is written as $P(A)$.



Geometric Probability:

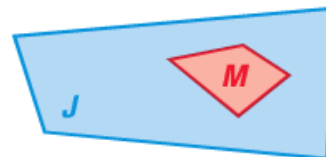
Is a ratio that involves a geometric measure such as length or area.

KEY CONCEPT

Probability and Area

Let J be a region that contains region M . If a point K in J is chosen at random, then the probability that it is in region M is the ratio of the area of M to the area of J .

For Your Notebook



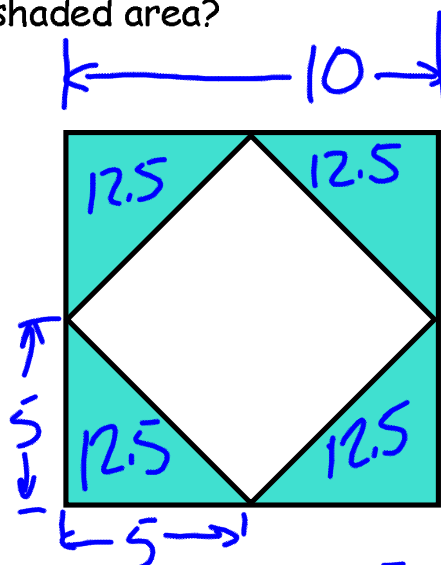
$$P(K \text{ is in region } M) = \frac{\text{Area of } M}{\text{Area of } J}$$

Section 11.7 - Geometric Probability

Target 11J

April 10, 2014

What is the Geometric Probability that a random point is in the shaded area?



$$\frac{A_{\text{SHADED}}}{A_{\text{TOTAL}}}$$

$$A_{\text{TOT}} = 10 \cdot 10 = 100 \text{ units}^2$$

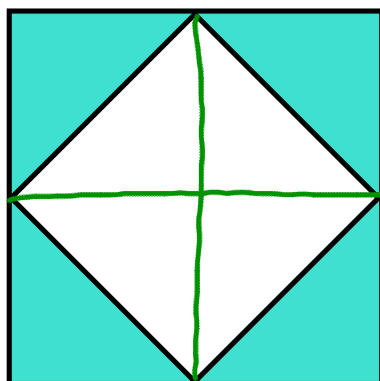
$$\frac{50}{100} = \frac{1}{2}$$

$$A_{\text{SHADED}} = 4 \cdot 12.5 = 50$$

$$50\%$$

$$.50$$

$$A_{\Delta} = \frac{1}{2} \cdot 5 \cdot 5 = 12.5 \text{ units}^2$$



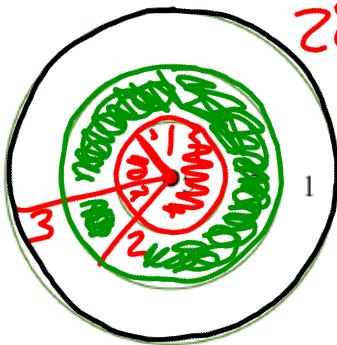
Section 11.7 - Geometric Probability

Target 11J

April 10, 2014

$$A_{\text{TARGET}} = \pi r^2$$

$$= 9\pi$$



28.26
cm²

This target has three concentric circles with radii of 1cm, 2cm, and 3cm respectively. If a dart is throw randomly and it lands on the target, what is the probability that the thrower scores:

5 points?

$$\frac{A_{\bullet}}{A_{\text{Tot}}} = \frac{\pi}{9\pi} = \frac{1}{9}$$

$$\frac{3.14}{28.26} = \frac{1}{9}$$

$$A_{\bullet} = \pi r^2$$

$$= \pi 1^2$$

$$= \pi \text{ cm}^2 \quad 3.14 \text{ cm}^2$$

3 points?

$$A_{\circ} = \pi r^2$$

$$4\pi \text{ cm}^2$$

$$\frac{3\pi}{9\pi} = \frac{1}{3}$$

$$A_{\circ} = A_{\bullet} - A_{\bullet}$$

$$4\pi - \pi = 3\pi \text{ cm}^2$$

$$9.42 \text{ cm}^2$$

$$\frac{9.42}{28.26} = \frac{1}{3}$$

1 point?